

Calendar No. 858

98TH CONGRESS }
2d Session }

SENATE

{ REPORT
98-437

STATE MINING AND MINERAL RESOURCES RESEARCH INSTITUTES

MAY 10 (legislative day, APRIL 30), 1984.—Ordered to be printed

Mr. McCURE, from the Committee on Energy and Natural Resources,
submitted the following

REPORT

[To accompany H.R. 4214]

The Committee on Energy and Natural Resources, to which was referred the act (H.R. 4214) to establish a State Mining and Mineral Resources Research Institute program, and for other purposes, having considered the same, reports favorably thereon with an amendment in the nature of a substitute and recommends that the act (as amended) do pass.

The amendment is as follows:

Strike out all after the enacting clause and insert in lieu thereof the following:

AUTHORIZATION OF STATE ALLOTMENTS TO INSTITUTES

SECTION 1. (a) (1) There are authorized to be appropriated to the Secretary of the Interior (hereafter in this Act referred to as the "Secretary") funds adequate to provide for each participating State \$300,000 for the fiscal year ending September 30, 1985, and \$400,000 too each participating State for each fiscal year thereafter for a total of five years, to assist the States in carrying on the work of a competent and qualified mining and mineral resources research institute or center (hereafter in this Act referred to as the "institute") at one public college or university in the State which meets the eligibility criteria established in section 10.

(2) (A) Funds appropriated under this section shall be made available for grants to be matched on a basis of no less than one and one-half non-Federal dollars for each Federal dollar during the fiscal years ending September 30, 1985, and September 30, 1986, and no less than two non-Federal dollars for each Federal dollar during the fiscal years ending September 30, 1987, September 30, 1988, and September 30, 1989;

(B) If there is more than one such eligible college or university in a State, funds appropriated under this Act shall, in the absence of a designation to the contrary by act of the legislature of the State, be granted to one such college or university designated by the Governor of the State; and

(C) Where a State does not have a public college or university eligible under section 10, the Committee on Mining and Mineral Resources Research established in section 9 (hereafter in this Act referred to as the "Committee") may allocate the State's allotment to one private college or university which it determines to be eligible under such section.

(b) It shall be the duty of each institute to plan and conduct, or arrange for a component or components of the college or university with which it is affiliated to conduct, research, investigations, demonstrations, and experiments of either, or both, a basic or practical nature in relation to mining and mineral resources, and to provide for the training of mineral engineers and scientists through such research, investigations, demonstrations, and experiments. The subject of such research, investigation, demonstration, experiment, and training may include exploration; extraction; processing; development; production of mineral resources; mining and mineral technology; supply and demand for minerals; conservation and best use of available supplies of minerals; the economic, legal, social, engineering, recreational, biological, geographic, ecological, and other aspects of mining, mineral resources, and mineral reclamation. Such research, investigation, demonstration, experiment and training shall consider the interrelationship with the natural environment, the varying conditions and needs of the respective States, and mining and mineral resources research projects being conducted by agencies of the Federal and State Governments, and other institutes.

RESEARCH FUNDS TO INSTITUTES

SEC. 2. (a) There is authorized to be appropriated to the Secretary \$10,000,000 for the fiscal year ending September 30, 1985. This amount shall be increased by \$1,000,000 for each fiscal year thereafter for four additional years, which shall remain available until expended. Such funds when appropriated shall be made available to institutes to meet the necessary expenses for purposes of—

(1) specific mineral research and demonstration projects of broad application, which could not otherwise be undertaken, including the expenses of planning and coordinating regional mining and mineral resources research projects by two or more institutes; and

(2) research into any aspects of mining and mineral resources problems related to the mission of the Department of the Interior, which are deemed by the Committee to be desirable and are not otherwise being studied.

(b) Each application for funds under subsection (a) of this section shall state, among other things, the nature of the project to be undertaken; the period during which it will be pursued; the qualifications of the personnel who will direct and conduct it; the estimated costs; the importance of the project to the Nation, region, or State concerned; its relation to other known research projects theretofore pursued or being pursued; the extent to which the proposed project will provide opportunity for the training of mining and mineral engineers and scientists; and the extent of participation by nongovernmental sources in the project.

(c) The Committee shall review all such funding applications and recommend to the Secretary the use of the institutes, insofar as practicable, to perform special research. Recommendations shall be made without regard to the race, religion, or sex of the personnel who will conduct and direct the research, and on the basis of the facilities available in relation to the particular needs of the research project; special geographic, geologic, or climatic conditions within the immediate vicinity of the institute; any other special requirements of the research project; and the extent to which such project will provide an opportunity for training individuals as mineral engineers and scientists. The Committee shall recommend to the Secretary the designation and utilization of such portions of the funds authorized to be appropriated by this section as it deems appropriate for the purpose of providing scholarships, graduate fellowships, and postdoctoral fellowships.

(d) No funds shall be made available under subsection (a) of this section except for a project approved by the Secretary and all funds shall be made available upon the basis of merit of the project, the need for the knowledge which it is expected to produce when completed, and the opportunity is provides for the training of individuals as mineral engineers and scientists.

(e) No funds made available under this section shall be applied to the acquisition by purchase or lease of any land or interests therein, or the rental, purchase, construction, preservation, or repair of any building.

FUNDING CRITERIA

SEC. 3. (a) Funds available to institutes under sections 1 and 2 of this Act shall be paid at such times and in such amounts during each fiscal year as determined by the Secretary, and upon vouchers approved by him. Each institute shall—

(1) set forth its plan to provide for the training of individuals as mineral enginers and scientists under a curriculum appropriate to the field of mineral resources, and mineral engineering and related fields;

(2) set forth policies and procedures which assure that Federal funds made available under this Act for any fiscal year will supplement and, to the extent practicable, increase the level of funds that would, in the absence of such Federal funds, be made available for purposes of this Act, and in no case supplant such funds; and

(3) have an officer appointed by its governing authority who shall receive and account for all funds paid under the provisions of this Act and shall make an annual report to the Secretary on or before the first day of September of each year, on work accomplished and the status of projects underway, together with a detailed statement of the amounts received under any provisions of this Act during the preceding fiscal year, and of its disbursements on schedules prescribed by the Secretary.

If any of the funds received by the authorized receiving officer of any institute under the provisions of this Act shall by any action or contingency be found by the Secretary to have been improperly diminished, lost, or misapplied, such funds shall be replaced by the State concerned and until so replaced no subsequent appropriation shall be allotted or paid to any institute of such State.

(b) The institutes are authorized and encouraged to plan and conduct programs under this Act in cooperation with each other and with such other agencies and individuals as may contribute to the solution of the mining and mineral resources problems involved. Moneys appropriated pursuant to this Act shall be available for paying the necessary expenses of planning, coordinating, and conducting such cooperative research.

DUTIES OF THE SECRETARY

SEC. 4. (a) The Secretary shall administer this Act and, after full consultation with other interested Federal agencies, shall prescribe such rules and regulations as may be necessary to carry out its provisions. The Secretary shall furnish such advice and assistance as will best promote the purposes of this Act, shall participate in coordinating research initiated under this Act by the institutes, shall indicate to them lines of inquiry that seem most important, and shall encourage and assist in the establishment and maintenance of cooperation by and between the institutes and between them and other research organizations, the United States Department of the Interior, and other Federal establishments.

(b) On or before the first day of July in each year beginning after the date of enactment of this Act, the Secretary shall ascertain whether the requirements of section 3(a) have been met as to each institute and State.

(c) The Secretary shall make an annual report to the Congress of the receipts, expenditures, and work of the institutes in all States under the provisions of this Act. The Secretary's report shall indicate whether any portion of an appropriation available for allotment to any State has been withheld and, if so, the reason therefor.

AUTONOMY

SEC. 5. Nothing in this Act shall be construed to impair or modify the legal relationship existing between any of the colleges or universities under whose direction an institute is established and the government of the State in which it is located, and nothing in this Act shall in any way be construed to authorize Federal control or direction of education at any college or university.

MISCELLANEOUS PROVISIONS

SEC. 6. (a) The Secretary shall obtain the continuing advice and cooperation of all agencies of the Federal Government concerned with mining and mineral resources, of State and local governments, and of private institutions and individuals to assure that the programs authorized by this Act will supplement and

not be redundant with respect to established mining and minerals research programs, and to stimulate research in otherwise neglected areas, and to contribute to a comprehensive nationwide program of mining and minerals research, with due regard for the protection and conservation of the environment. The Secretary shall make generally available information and reports on projects completed, in progress, or planned under the provisions of this Act, in addition to any direct publication of information by the institutes themselves.

(b) Nothing in this Act is intended to give or shall be construed as giving the Secretary any authority over mining and mineral resources research conducted by any agency of the Federal Government, or as repealing or diminishing existing authorities or responsibilities of any agency of the Federal Government to plan and conduct, contract for, or assist in research in its area of responsibility and concern with regard to mining and mineral resources.

(c) No research, demonstration, or experiment shall be carried out under this Act by an institute financed by grants under this Act, unless all uses, products, processes, patents, and other developments resulting therefrom, with such exception or limitation, if any, as the Secretary may find necessary in the public interest, are made available promptly to the general public. Patentable inventions shall be governed by the provisions of Public Law 96-517. Nothing contained in this section shall deprive the owner of any background patent relating to any such activities of any rights which that owner may have under that patent.

(d) There are authorized to be appropriated after September 30, 1984, such sums as are necessary for the printing and publishing of the results of activities carried out by institutes under this Act and for administrative planning and direction, but such appropriations shall not exceed \$1,000,000 in any single fiscal year.

CENTER FOR CATALOGING

SEC. 7. The Secretary shall establish a center for cataloging current and projected scientific research in all fields of mining and mineral resources. Each Federal agency doing mining and mineral resources research shall cooperate by providing the cataloging center with information on work underway or scheduled by it. The cataloging center shall classify and maintain for public use a catalog of mining and mineral resources research and investigation projects in progress or scheduled by all Federal agencies and by such non-Federal agencies of government, colleges, universities, private institutions, firms, and individuals as may make such information available.

INTERAGENCY COOPERATION

SEC. 8. The President shall, by such means as he deems appropriate, clarify agency responsibility for Federal mining and mineral resources research and provide for interagency coordination of such research, including the research authorized by this Act. Such coordination shall include—

- (1) continuing review of the adequacy of the Government-wide program in mining and mineral resources research;
- (2) identification and elimination of duplication and overlap between agency programs;
- (3) identification of technical needs in various mining and mineral resources research categories;
- (4) recommendations with respect to allocation of technical effort among Federal agencies;
- (5) review of technical manpower needs, and findings concerning management policies to improve the quality of the Government-wide research effort; and
- (6) actions to facilitate interagency communication at management levels.

COMMITTEE

SEC. 9. (a) The Secretary shall appoint a Committee on Mining and Mineral Resources Research composed of—

- (1) the Assistant Secretary of the Interior responsible for minerals and mining research, or his delegate;
- (2) the Director, Bureau of Mines, or his delegate;
- (3) the Director, United States Geological Survey, or his delegate;
- (4) the Director of the National Science Foundation, or his delegate;

(5) the President, National Academy of Sciences, or his delegate;
 (6) the President, National Academy of Engineering, or his delegate; and
 (7) not more than six other persons who are knowledgeable in the fields of mining and mineral resources research, including two university administrators involved in the conduct of programs authorized by section 301 of the Surface Mining Control and Reclamation Act of 1977, two representatives from the mining industry, a working miner, and a representative from the conservation community. In making these six appointments, the Secretary shall consult with interested groups.

(b) The Committee shall consult with, and make recommendations to, the Secretary on all matters relating to mining and mineral resources research and the determinations that are required to be made under this Act. The Secretary shall consult with, and consider recommendations of, the Committee in such matters.

(c) Committee members, other than officers or employees of Federal, State, or local governments, shall be, for each day (including traveltime) during which they are performing Committee business, paid at a rate fixed by the Secretary but not excess of the daily equivalent of the maximum rate of pay for grade GS-18 of the General Schedule under section 5332 of title 5 of the United States Code, and shall be fully reimbursed for travel, subsistence, and related expenses.

(d) The Committee shall be jointly chaired by the Assistant Secretary of the Interior responsible for minerals and mining and a person to be elected by the Committee from among the members referred to in paragraphs (5), (6), and (7) of subsection (a) of this section.

(e) The Committee shall develop a national plan for research in mining and mineral resources, considering ongoing efforts in the universities, the Federal Government, and the private sector, and shall formulate and recommend a program to implement the plan utilizing resources provided for under this Act. The Committee shall submit such plan to the Secretary, the President, and the Congress on or before March 1, 1986, and shall update the plan annually thereafter.

(f) Section 10 of the Federal Advisory Committee Act (5 U.S.C. App.) shall apply to the Committee.

ELIGIBILITY CRITERIA

SEC. 10. (a) The Committee shall determine the eligibility of a college or university to participate as a mining and mineral resources research institute under this Act using criteria which include—

(1) the presence of a substantial program of graduate instruction and research in mining or mineral extraction or closely related fields which has a demonstrated history of achievement;

(2) evidence of institutional commitment for the purposes of this Act;

(3) evidence that such institution has or can obtain significant industrial cooperation in activities within the scope of this Act; and

(4) the presence of an engineering program in mining or minerals extraction that is accredited by the Accreditation Board for Engineering and Technology, or evidence of equivalent institutional capability as determined by the Committee.

(b) Notwithstanding the provisions of subsection (a), those colleges or universities which, on the date of enactment of this Act, have a mining or mineral resources research institute program which has been found to be eligible pursuant to Title III of the Surface Mining Control and Reclamation Act of 1977 (91 Stat. 445) shall continue to be eligible pursuant to this Act for a period of four fiscal years beginning October 1, 1984.

PURPOSE

The purpose of H.R. 4214 is to reauthorize the establishment of a State mining and mineral resources research institute program similar to that which was established pursuant to Title III of the Surface Mining Control and Reclamation Act of 1977 (91 Stat. 445; 30 U.S.C. 1221). The original authorization under the 1977 Act expires in fiscal year 1984. The bill, in pertinent part, provides that one public college or university in each State that meets the eligibility criteria established

in section 10 would receive Federal grants to be matched by State grants in order to assist those States in carrying on the work of a competent and qualified mining and mineral resources research institute.

BACKGROUND AND NEED

The establishment of the State mining and mineral resources research institutes by the Surface Mining Control and Reclamation Act of 1977 resulted from long-standing concern in the engineering and scientific community. That concern was appropriately expressed in a report prepared by the National Academy of Sciences in 1969. The report noted both the lack of financial support for mineral engineering programs in universities (causing subsequent deterioration of higher education in this field) and the lack of coordination and support of mineral resources research by both Federal and State governments. The report also stated that the problem faced by the mineral industry is not one of resource deficiency. Rather, the problem stems from the fact that the United States lacks the technology needed for the competitive and profitable production and processing of these resources. This statement was not only valid then but continues to be so today.

Clearly, the long-term health of the mining and minerals industry in the United States depends upon research and development activities that will provide new information and will lead to new technologies. Academic institutions are major performers of research and development and it is critical that this Nation maintain vigorous research activities at institutions of higher education. A major purpose of this bill is to continue to stimulate such research activities in academic settings.

In reviewing the legislative history of title III of the Surface Mining Control and Reclamation Act, the Committee found that there was a disturbing trend at that time reflecting a steady decline in the number of qualified engineering personnel. Indeed, in 1977, there was a dramatic difference between the demand for mining and minerals engineers and the number of students receiving degrees. Universities were only able to supply about one-fifth of the trained personnel required by industry and Government employers. Initiation of the mining and mineral resources research institute program began in 1978 with financial assistance provided to 20 qualified institutes. The number of qualified institutes participating in the program has since grown to thirty-one. Notwithstanding the short time the program has been in existence, significant contributions have been made in mining and minerals related technology and in the number of advanced degrees that have been awarded in the mining and minerals discipline in the United States.

A report prepared by members of the mining and mineral resources research institutes program dated December 1983 and entitled "Increasing Supply and Productivity in the Mineral Sector Through Research and Education", indicates that the number of undergraduate and graduate students receiving advanced degrees during the period 1978-1982 is impressive. It shows that the mining and mineral resources research institute program played a major role, if not a key role, in causing this increase. The allotment and scholarship/fellowship programs alone provided support for a total of 319 undergrad-

uate students and 423 graduate students per year on the average. In addition, 123 students received support through separately funded research projects. Despite this impressive record, the report makes clear that inadequacies still exist with respect to the number of individuals receiving their Ph. D's in all extractive minerals disciplines. The average number of Ph. D.'s annually received in this field is only 30 for the entire nation. This meager number cannot meet the need for new faculty in higher education let alone the needs of industry and government.

Finally, the report notes that an average of 234 research projects per year were supported through the mining and mineral resources research institute's program during the same five year period. A few examples of research projects supported by the program are as follows:

Research in Alabama on impounded fine coal wastes has resulted in fine coal being removed from waste impoundments and put to a profitable use;

Research in Iowa found that, through the use of electroosmosis, useful fuels and minerals can be recovered from coal sludges and suspensions, mill tailings, and other waste products; and

Research in Kentucky has resulted in discovering and developing new methods for mitigating acid mine drainage problems.

While the examples of research projects noted above represent only three State institutes, the report cites important examples for each participating State institute.

Important strides have been made in reversing the trend of the last decade but more needs to be done. Thus, the Committee believes that there is a continuing need for Federal assistance to qualified mining and mineral resources research institutes in order to ensure that this nation not only has the qualified minerals professionals to meet the needs of government and industry but also those professionals who will be instrumental in developing our future technological needs.

LEGISLATIVE HISTORY

S. 2186 was introduced on November 18, 1983 by Senator John W. Warner (for himself, Mr. Byrd, Mr. McClure, Mr. Johnston, Mr. Laxalt, Mr. Ford, Mr. Andrews, Mr. Randolph, Mr. Abdnor, Mr. Baucus, Mr. Tribble, Mr. DeConcini, Mr. Gorton, Mr. Boschwitz, Mr. Durenberger, Mr. Symms, Mr. Murkowski, Mr. Dixon, Mr. Specter, Mr. Garn, Mr. Heflin, Mr. Percy, Mr. Melcher, Mr. Cochran, Mr. Eagleton, Mr. Goldwater, Mr. Hecht, Mr. Denton, Mr. Wallop, Mr. Danforth, Mr. Armstrong, Mr. Mattingly, Mr. Heinz, and Mr. Pressler).

A legislative hearing was held by the Subcommittee on Energy and Mineral Resources on February 10, 1984 at which time testimony was received from public witnesses and the Administration.

On April 11 and April 25, 1984, the full Committee considered S. 2186 and H.R. 4214. The House companion bill, H.R. 4214, was ordered reported by the House Interior and Insular Affairs Committee on April 5, 1984 and subsequently passed the House on April 9, 1984. On April 25, the full Committee adopted H.R. 4214 with an amendment in the nature of a substitute and reported the bill favorably.

COMMITTEE RECOMMENDATION AND TABULATION OF VOTES

The Senate Committee on Energy and Natural Resources, in open business session on April 25, 1984, with a quorum present, recommended that the Senate pass H.R. 4214, if amended as described herein.

The roll call vote on reporting the measure was 18 yeas, 0 nays, as follows:

YEAS	NAYS
Mr. McClure	
Mr. Hatfield ¹	
Mr. Domenici ¹	
Mr. Wallop ¹	
Mr. Warner	
Mr. Murkowski	
Mr. Nickles	
Mr. Hecht	
Mr. Chafee ¹	
Mr. Evans	
Mr. Johnston	
Mr. Bumpers	
Mr. Ford	
Mr. Metzenbaum	
Mr. Matsunaga ¹	
Mr. Melcher	
Mr. Bradley	
Mr. Levin ¹	

¹ Indicates voted by proxy.

COMMITTEE AMENDMENTS

The Committee amended H.R. 4214 to strike all after the enacting clause and insert a substitute text. Aside from technical, clarifying and conforming amendments, the Committee's substitute text made the following substantive changes to the bill as passed by the House. (The sections refer to the bill as reported.)

Section 2(a) is amended by increasing the level of funding from \$7,500,000 to \$10,000,000 that is authorized to be appropriated to the Secretary for the fiscal year ending September 30, 1985. The Committee increased the funding level to \$10,000,000 in response to concerns expressed by representatives of the State universities and land-grant colleges that \$7,500,000 was inadequate. No other substantive changes were made to this section.

Section 9 is amended by adding a subsection (f) which specifies that only section 10 of the Federal Advisory Committee Act of 1972 (86 Stat. 770, 5 U.S.C. App.) shall apply to the Committee on Mining and Mineral Resources Research (CMMRR). H.R. 4214, as passed by the House intends that all of the provisions of the Federal Advisory Committee Act (FACA) apply to the CMMRR. The Committee believes that compliance with all of the provisions of the FACA would be cumbersome and counterproductive to the functioning of the CMMRR. Since the inception of the Advisory Committee on Mining

and Minerals Resources Research (ACMMRR) established in title III of the Surface Mining Control and Reclamation Act of 1977, it has never functioned pursuant to the FACA. Notwithstanding the fact that the ACMMRR should have complied with the provisions of the FACA from its inception, the Committee knows of no evidence that would suggest that the absence of such compliance has caused any problems from a public interest point-of-view.

However, the Committee does believe that application of section 10 of the FACA would be both appropriate and valuable to the functioning of the CMMRR. In pertinent part, section 10 of FACA requires that meetings of the CMMRR be open to the public, results of such meetings be published, detailed minutes be taken, etc.

Section 10 of the bill is amended by creating subsections (a) and (b), with the latter containing the substance of the amendment. In essence, subsection (b) exempts all 31 of the mining and mineral resources research institutes, which have previously been eligible pursuant to title III of the Surface Mining Control and Reclamation Act of 1977, for a period of 4 fiscal years beginning October 1, 1984 from compliance with the eligibility criteria established in section 10 of the bill.

The Committee intends that any institute seeking eligibility subsequent to enactment of this Act, other than the aforementioned, would have to satisfy the eligibility criteria in section 10. Furthermore, the Committee intends that those institutes, exempted for 4 fiscal years in section 10(b), will subsequently have to satisfy the eligibility criteria in section 10. Thus, those 31 institutes exempted in section 10(b) will have no assurance of continued support unless they too satisfy the eligibility criteria established in this bill. The Committee recognizes that many of the existing 31 institutes will satisfy the new eligibility criteria. However, there may be those institutes which, in the judgment of the CMMRR, do not satisfy this criteria and thus will not continue to participate in the program. This change is consistent with the original purpose of the program, as enacted by title III of the Surface Mining Control and Reclamation Act of 1977, which was to have an efficiently run research program through the State universities and land-grant colleges.

SECTION-BY-SECTION ANALYSIS

Section 1—Authorization of State Allotments to Institutes

This section reauthorizes the "per institute" funding through fiscal year 1989. Funding levels are set at \$300,000 per institute for the first year of the authorization and \$400,000 per institute for each of the 4 remaining years. Institutes are required to match funds with non-Federal dollars at the ratio of 1.5-to-1 for the first 2 years, and 2-to-1 for the remaining 3 years.

Section 2—Research Funds to Institutes

This section creates a pool of funds to be used to finance approved research projects. \$10 million is authorized in the first year, with the amount increasing by \$1 million each remaining year of the authorization. The final year's authorization (fiscal year 1989) will be \$14 mil-

lion. Applications for specific projects are to be considered by the committee created by section 9 of the bill. The committee makes recommendations to the Department, with the Secretary retaining the final decision.

Section 3—Funding Criteria

This section requires the institutes to submit plans, policies and procedures for the use of funds authorized in the bill. It also encourages individual institutes to cooperate with one another on joint projects.

Section 4—Duties of the Secretary

Directs the Secretary to administer the Act, measure the institutes' compliance with section three reporting requirements, and make an annual report to Congress.

Section 5—Autonomy

Provides that nothing in the bill will modify existing legal relationships between the Federal Government, States and universities.

Section 6—Miscellaneous Provisions

(a) Directs the Secretary to consult with other agencies of the Federal Government, the States and private industry groups to assure that projects funded are not duplicative. Also directs the Secretary to make available information and reports on completed projects.

(b) Provides that the Act does not affect any other Federal programs in mining and minerals research.

(c) All research findings made under projects funded by the Act shall be available to the general public. Patentable inventions will be governed by Public Law 96-517.

(d) Authorizes funds for publication of results of studies funded through the program.

Section 7—Center for Cataloging

Directs the Secretary to establish a "center for cataloging" all current research projects in mining and mineral resources.

Section 8—Interagency Cooperation

Directs the President to coordinate the Federal responsibility for research projects in mining and mineral resources and eliminate any overlap or duplicity.

Section 9—Committee

(a) Establishes a committee appointed by the Secretary. Directs the Secretary to appoint 12 individuals to serve on the committee. When making the six non-governmental appointments, the Secretary is directed to consult with interested groups from the private sector.

(b) Directs the committee to consult with and make recommendations to the Secretary as required by the other sections of the Act.

(c) Fixes the compensation paid to committee members.

(d) Establishes a joint chairmanship of the committee.

(e) Directs the committee to develop a national plan for research in mining and minerals resources.

(f) Directs the committee to comply with only section 10 of the Federal Advisory Committee Act.

Section 10—Eligibility Criteria

Directs the committee to make recommendations on the eligibility of institutes to receive funding. In making its recommendations, the committee must look at four criteria:

- (1) presence of a substantial graduate program;
- (2) evidence of institutional commitment;
- (3) evidence of industrial cooperation; and
- (4) presence of an accredited mining engineering program or equivalent institutional capacity.

Exempts those 31 institutes currently participating in the mining and mineral resources research institute program from satisfying the new eligibility criteria for 4 fiscal years beginning October 1, 1984.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of costs of this measure has been provided by the Congressional Budget Office.

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, D.C., April 30, 1984.

HON. JAMES A. McCCLURE,
Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for H.R. 4214, a bill to establish a State mining and mineral resources research institute program, and for other purposes.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ERIC HANUSHEK,
(For Rudolph G. Penner, Director).

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

APRIL 30, 1984.

1. Bill number: H.R. 4214.
2. Bill title: A bill to establish a State mining and mineral resources research institute program, and for other purposes.
3. Bill status: As ordered reported by the Senate Committee on Energy and Natural Resources, April 25, 1984.
4. Bill purpose: H.R. 4214 authorizes appropriations for fiscal years 1985 through 1989 to fund minerals institutes activities in the Department of the Interior. This program is currently authorized through the end of fiscal year 1984 by Title III of the Surface Mining Control and Reclamation Act of 1977 (Public Law 95-87).

5. Estimated cost to the Federal Government:

[By fiscal years, in millions of dollars]

	1985	1986	1987	1988	1989
Authorization level:					
Specified	11.0	12.0	13.0	14.0	15.0
Estimated	9.3	12.4	12.4	12.4	12.4
Total	20.3	24.4	25.4	26.4	27.4
Estimated outlays	4.2	18.1	23.7	24.7	25.8

The costs of this bill fall within budget function 300.

Basis of estimate: For purposes of this estimate, it was assumed that H.R. 4214 will be enacted by June 1984, and that the full amounts authorized will be appropriated prior to the beginning of each fiscal year. Authorization levels for research grants awarded pursuant to Section 2 are as specified in the bill. Allotment grant authorizations were estimated on the assumption that the number of eligible states would remain at 31 for the five-year period. H.R. 4214 also authorizes the appropriation of sums necessary (not to exceed \$1 million in any fiscal year) for the publication and printing of minerals institutes research. Outlays were estimated on the basis of historical patterns.

6. Estimated cost to State and local governments: H.R. 4214 increases the amounts that eligible state colleges or universities must obtain from nonfederal sources in order to qualify for federal grant money. For 1985 and 1986, the federal-nonfederal ratio rises from 1:1 to 1:1.5. In 1987, this ratio will increase to 1:2 for the remainder of the authorization period. In order to qualify for allotment grants equal to the maximum authorized, each participating state would have to obtain \$450,000 in fiscal year 1985 from sources such as industry, foundations or state budgets. This amount would rise to \$600,000 in 1986 and \$800,000 in 1987. To the extent that a state is able to match its federal grant request with funds from private contributions, there would be no state budgetary impact.

7. Estimate comparison: None.

8. Previous CBO estimate: On April 5, 1984, the Congressional Budget Office prepared a cost estimate on H.R. 4214, as ordered reported by the House Committee on Interior and Insular Affairs. That bill is almost identical to this version of H.R. 4214, except that it authorizes \$2.5 million per year less for research grants.

9. Estimate prepared by: Deb Reis.

10. Estimate approved by: C. G. Nuckols (for James L. Blum, Assistant Director for Budget Analysis).

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11 (b) of rule XXVI of the Standing Rules of the Senate, the Committee finds that there will be no significant regulatory impact incurred in carrying out the provisions of H.R. 4214.

EXECUTIVE COMMUNICATIONS

While the Committee did not request legislative reports or communications regarding H.R. 4214, as ordered reported, the following pertinent legislative reports and communications were received by the Committee from the Department of the Interior and the Office of Management and Budget, setting forth Executive agency comments relating to S. 2186, as introduced:

U.S. DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, D.C., February 24, 1984.

HON. JAMES A. MCCLURE,
*Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, D.C.*

DEAR MR. CHAIRMAN: This responds to your request for our views on S. 2186, a bill "To establish a State mining and mineral resources research institute program, and for other purposes."

We oppose enactment of S. 2186.

The State mining and mineral resources research institute program was established by title III of the Surface Mining Control and Reclamation Act of 1977, Public Law 95-87, with funding authorized for a period of 7 years ending with fiscal year 1984. Title VIII of Public Law 95-87 authorized creation of "University Coal Research Laboratories," with funding authorized through June 30, 1983, and title IX established "Energy Resource Graduate Fellowships" with authorization through September 30, 1984. Without any clear reference to the three statutes cited above, S. 2186 would create a new "State Mining and Mineral Resources Research Institute" program.

In the years since the National Academy of Sciences Committee on Mineral Science and Technology issued its seminal report in 1969, there have been some significant changes in the U.S. mineral industry, in government organization and staffing, and in the demand for technically qualified personnel. The 1969 report called attention to the decline of departments of mining engineering and extractive metallurgy and reductions in the numbers of graduates in these disciplines. In the early 1970's, following the oil embargo, projections were made that coal mining in the United States would double to as much as 1.5 billion tons per year by 1985. Following the passage of the Surface Mining Control and Reclamation Act of 1977, there was a significant increase in demand for mining engineers by industry, the Federal Government, and State governments to implement compliance with the detailed regulations developed to implement that Act. Further, for a period, increased regulations under the mine safety and health acts increased demand for mining engineers in both government and industry. Today, we find that most such positions have been filled and that present demand for large numbers of newly trained mining engineers and extractive metallurgists is low.

The Mineral Institute program has changed since its inception in 1978. In the Conference Report on the Department of the Interior's Fiscal Year 1982 Appropriation Act (House Report 97-315, 97th Con-

gress, First Session, November 5, 1981), the Congress directed that the Department of the Interior try to effect a reduction in the number of Institutes. In response, drawing upon the concept of generic centers set forth in the Stevenson-Wydler Technology Innovation Act of 1980 (Public Law 96-480, October 21, 1980), we proceeded to establish five Generic Mineral Technology Centers.

The Institutes are all components of large, viable educational institutions, which derive a large portion of their financial support from States revenues and other non-Federal sources, including industrial research grants and contracts. Information provided by the Institutes in 1982 indicated that State and State agencies (exclusive of instructional funds) provided \$20.1 million and private sources \$11.5 million for minerals-related research.

Examples of the type of State and industry support available are the Center for Explosives Technology Research established with a \$6.5 million State grant at the New Mexico Institute of Mining and Technology and the gift of a \$4.8 million minerals laboratory complex presented by UOP, Inc., to the University of Arizona's College of Mines.

The Administration has proposed in the FY 1985 and earlier budgets to discontinue direct Federal funding for the Mineral Institutes because we believe that these institutions now are able to attract financial support from State government and industry, where rightful responsibility for supporting these Institutes resides. In addition, they will continue to compete for contracts and grants from ongoing Federal research programs. The 1985 budget projects that \$31.5 million of the research programs in the relevant bureaus at the Department of the Interior and the fossil research programs at the Department of Energy will be carried out by colleges and universities.

The research provisions of the Economic Recovery Tax Act of 1981 should provide some additional stimulus to industrial research, including that carried on in conjunction with universities, and the recovery of the economy should result in continued availability of State revenues for educational purposes.

Therefore, we see no present need for further specific funding of the Mineral Institutes, and we oppose enactment of S. 2186. Further, S. 2186 would make a number of changes in present title III of Public Law 95-87 which we believe are unnecessary and unworkable. For instance, in Public Law 95-87 the Advisory Committee includes representation of all relevant agencies, and is clearly advisory, as such committees should be. In contrast, S. 2186 would appear to put its new committee in more of an operational mode, generally an inadvisable role for committees. At the same time, S. 2186 would enlarge the committee by including three university administrators, clearly raising the specter of conflict of interest or, at the very least, the appearance of conflict of interest. In conclusion, we believe that the Mineral Institute program has been successfully launched, and is now in a position to go forward with State and industry funding.

The Office of Management and Budget has advised that there is no objection to the presentation of this report from the standpoint of the Administration's program.

Sincerely,

JED O. CHRISTENSEN,
Deputy Assistant Secretary.

EXECUTIVE OFFICE OF THE PRESIDENT,
OFFICE OF MANAGEMENT AND BUDGET,
Washington, D.C., March 16, 1984.

HON. JAMES A. MCCLURE,
*Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request of December 14, 1983, for the views of the Office of Management and Budget on S. 2186, a bill "To establish a State mining and mineral resources research institute program, and for other purposes."

The Office of Management and Budget strongly opposes enactment of S. 2186.

The current mining and mineral research institute program, administered by the Department of the Interior, was established under the Surface Mining Control and Reclamation Act of 1977. The authorization of appropriations for this program expires September 30, 1984. S. 2186 would extend the program for another five years, authorizing appropriations totalling \$115 million over fiscal years 1985 through 1989.

There have been many substantial changes in the industry since the inception of the program in 1978, including a reduced demand for technical personnel. Moreover, each of the institutes is associated with a major college or university funded primarily by non-Federal sources. Because the institutes are able to attract funding from State governments and the private sector, and because the institutes will continue to receive grants and contracts from other ongoing Federal research programs, the Administration has not requested appropriations under the existing mineral institute program authority for any of the last three fiscal years. No such funding is included in the President's budget for fiscal year 1985.

For these and other reasons detailed in the Department of the Interior's report to you on this bill dated February 24, 1984, the Office of Management and Budget strongly opposes S. 2186.

Sincerely,

DAVID A. STOCKMAN,
Director.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee notes that no changes in existing law are made by the bill, H.R. 4214, as ordered reported.



